

in central Rocky Mountain sections had been hard on stock, which had become thin and weak with some losses reported. The range continued to fail gradually in the more southwestern districts because of the absence of moisture.

Fruit.—Late reports indicated that considerable damage was done to citrus fruit by frost in California during the last week in December, and that limes and lemons were harmed in the lower Rio Grande Valley. In Florida the weather was mostly favorable for citrus; the increased moisture the latter part of the month stimulated growth of trees. Peach buds were damaged somewhat in southern Indiana, and there was some complaint of harm by the cold in the central Rocky Mountain area. Otherwise the month was generally favorable for fruit.

Miscellaneous crops.—In the Southeastern States winter truck made fairly good progress under the influence of weather which was mostly mild and moist. It was unfavorable for planting, however, during much of the month, because of frequent rains and wet soil, while in Florida it was rather too warm for the hardier varieties of truck. In west Gulf districts conditions were less favorable because of damaging cold early in the month, and, in sections not irrigated, because of continued dryness. At the close of the month potatoes had been mostly planted in Florida and much of the early crop was up, though germination was unsatisfactory locally. Conditions were favorable in the far Southwest, and minor crops did well in Pacific-coast districts.

CLIMATOLOGICAL TABLES

DESCRIPTION OF TABLES AND CHARTS

Table I gives the data ordinarily needed for climatological studies for about 176 Weather Bureau stations making simultaneous observations at 8 a. m. and 8 p. m. daily, 75th meridian time, and for about 37 others making only one observation. The altitudes of the instruments above ground are also given.

Table II gives, for about 35 stations of the Canadian Meteorological Service, the means of pressure and temperature, total precipitation, and depth of snowfall, and the respective departures from normal values except in the case of snowfall. The sea level pressures have been computed according to the method described by Prof. F. H. Bigelow in the REVIEW of January, 1902, pages 13-16.

Chart I.—*Tracks of centers of ANTICYCLONES*; and

Chart II.—*Tracks of centers of CYCLONES*. The Roman numerals show the chronological order of the centers. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the observations at 8 a. m. and 8 p. m., 75th meridian time. Within each circle is also given (Chart I) the last three figures of the highest barometric reading, or (Chart II) the lowest reading reported at or near the center at that time, and in both cases as reduced to sea level and standard gravity. The inset map in Chart I shows the departure of monthly mean pressure from normal and the inset in Chart II shows the change in mean pressure from the preceding month.

Chart III.—*Temperature departures*. This chart presents the departures of the monthly mean surface temperatures from the monthly normals. The shaded portions of the chart indicate areas of positive departures and unshaded portions indicate areas of negative departures. Generalized lines connect places having approximately equal departures of like sign. This chart of monthly surface temperature departures in the United States was first published in the MONTHLY WEATHER REVIEW for July, 1909.

Chart IV.—*Total precipitation*. The scales of shading with appropriate lines show the distribution of the monthly precipitation. The inset on this chart shows

the departure of the monthly totals from the corresponding normals.

Chart V.—*Percentage of clear sky between sunrise and sunset*. The average cloudiness at each Weather Bureau station is determined by numerous personal observations between sunrise and sunset. The difference between the observed cloudiness and 100 is assumed to represent the percentage of clear sky, and the values thus obtained are the basis of this chart. The chart does not relate to the nighttime.

Chart VI.—*Isobars at sea level, average surface temperatures, and prevailing wind directions*. The pressures have been reduced to sea level and standard gravity by the method described by Prof. Frank H. Bigelow on pages 13-16 of the REVIEW for January, 1902. The pressures have also been reduced to the mean of the 24 hours by the application of a suitable correction to the mean of 8 a. m. and 8 p. m. readings at stations taking two observations daily, and to the 8 a. m. or the 8 p. m. observation, respectively, at stations taking but a single observation. The diurnal corrections so applied will be found in the Annual Report of the Chief of the Weather Bureau, 1900-1901, volume 2, Table 27, pages 140-164.

The sea level temperatures are now omitted and average surface temperatures substituted. The isotherms can not be drawn in such detail as might be desired, for data from only the regular Weather Bureau stations are used.

The prevailing wind directions are determined from hourly observations at the great majority of the stations. A few stations determine the prevailing direction from the daily or twice-daily observations only.

Chart VII.—*Total snowfall*. This is based on the reports from regular and cooperative observers and shows the depth in inches of the snowfall during the month. In general, the depth is shown by lines inclosing areas of equal snowfall, but in special cases figures are also given. This chart is published only when the snowfall is sufficiently extensive to justify its preparation. The inset to this chart shows the depth of snow on the ground at the end of the month.

Charts VIII, IX, etc.—*North Atlantic weather maps of particular days*.